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G. FINE OF THE EXECUTIVE SECRETARY

97.00409

August 15, 2000

VIA HAND DELIVERY

Mr. David Waddell, Executive Secretary Tennessee Regulatory Authority 460 James Robertson Parkway Nashville, Tennessee 37201

RE: All Telephone Companies Tariff Filings Regarding Reclassification of Pay

Telephone Service as Required by FCC Docket 96-128

Dear Mr. Waddell:

I am enclosing with this letter an original and thirteen copies of the responses of Citizens Telecommunications Company of Tennessee and Citizens Telecommunications Company of the Volunteer State (collectively "Citizens") to the discovery requests of the Consumer Advocate in the above referenced matter. Copies are being served on counsel for all parties of record.

Should you have any questions or require anything further at this time, please do not hesitate to contact me.

Sincerely,

fuilford F. Thoraton, Jr

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GFT/lb

Enclosures

cc: Richard M. Tettelbaum

John B. Adams



CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following individuals, via U.S. Mail, on this 15th day of August, 2000.

Richard Collier Tennessee Regulatory Authority 460 James Robertson Parkway Nashville, TN 37243

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Gyilford F. Thornton, Jr.

BEFORE THE TENNESSEE REGULATORY AUTHORITY NASHVILLE, TENNESSEE

IN RE:

ALL TELEPHONE COMPANIES TARIFF FILING REGARDING

RECLASSIFICATION OF PAY TELEPHONE SERVICE AS

REQUIRED BY FCC DOCKET 96-128

Docket No. 97-00409

RESPONSES OF CITIZENS TELECOMMUNICATIONS OF TENNESSEE AND CITIZENS TELECOMMUNICATIONS OF THE VOLUNTEER STATE TO CONSUMER ADVOCATE'S DISCOVERY REQUEST

1. Please provide a study identifying the cost of providing payphone lines reflecting the decisions made by the TRA in the Phase I order (5/20/98) and the Phase II order (9/16/99) in docket 97-00888 (Universal Service Proceeding), and the Phase I order (1/25/99) in docket 97-01262 (Petition to Convene a Contested Case Proceeding, to Establish Permanent Prices for Interconnection and Unbundled Network Elements). Provide detailed workpapers showing source of data and the development of all computed factors and amounts included in the study.

RESPONSE: See Response to Interrogatory #2.

2. If it is Citizens Telecommunications of Tennessee's and Citizens Telecommunications of the Volunteer State's position that the methodology used for determining the costs of unbundled network elements is inappropriate for use in determining the cost of payphone access lines, provide a detailed explanation of the methodology that Citizens believes is superior for determining the cost of each of the elements that make up the payphone access line and explain why Citizens' preferred methodology is superior.

RESPONSE: The 1996 Act ("the Act") specifically limits a local exchange carrier's ("LEC's") obligations to provide Unbundles network elements ("UNEs") to "Telecommunications Carriers". The Federal Communications Commission ("FCC") has held that independent PSPs are not telecommunications carriers, but retail subscribers. (See Local Interconnection Order, 11 FCC Rcd at 15936, 876.) The FCC specifically determined (In its first payphone order) that the pricing regime under Sections 251 and 252 of the Act did not apply to Section 276 payphone

services. Instead the FCC decided to apply a "new services" test to price payphone services.

Whether for the purpose of determining TELRIC costs for UNEs or TSLRIC costs for Citizens' services, Citizens supports the use of its own internal network models to derive costs to be used as the basis for pricing. In particular, the company's loop model, the CostMap Wireline Model ("CMWM"), is a preferable loop cost model (vs. proxy models) because it reflects the company's specific investment input and engineering practices.

The output of this model provides cost information at a very refined geographic level that could be used to accurately estimate the cost of each and every customer. Having this detailed cost information available along with the cost information for other network functions from such models as SCIS ("Switching Cost Information System") and Citizens' internal transport models, Citizens can generate detailed investment output by detailed network functions to support the development of its services such as payphone access lines and UNE investments.

The CMWM is state of the art in terms of bottom-to-top loop modeling and incorporates features similar to both a cost "proxy" model and a company-specific incremental cost model.

The cost proxy models currently under evaluation by the Tennessee Regulatory Authority ("TRA") do *not* attempt to reflect the network of any specific provider. Rather, they reflect the network of a generic provider overlaid onto the terrain and estimated customer base of an existing provider's service territory.

BellSouth Telecommunications, Inc. ("BST") has submitted a model that it refers to as the BST TELRIC Calculator. Citizens has not been afforded the opportunity to review the TELRIC Calculator specifically. The only reference to that model Citizens has seen is the Phase I order in docket 97-01262. In that proceeding the commission critiqued the model as being an embedded "historic" cost model. Again, Citizens has not reviewed the TELRIC Calculator specifically, so it can not make specific comments, but Citizens does not believe that historic cost models should be used as the foundation for service or UNE prices. However, a forward looking model that represents actual network investments (not a theoretical network that results from investments developed via traditional proxy models) that are estimated to be in place in the future is the appropriate model to be used in development of services and UNE costs.

A company specific incremental cost model, on the other hand, is one that reflects the provider's network, uses company-specific data (customer base and model inputs), and reflects the provider's engineering practices, not those of a generic provider. Indeed, a sound forward-looking cost model should best reflect the resources that will be used in the future and best estimate the value of those resources. In the past however, company-specific incremental cost models often

relied upon a sample of customers. This characteristic has historically limited the use of company-specific models when cost estimates were required for sparsely populated and small geographic areas.

The CMWM draws from both types of models. The CMWM employs the same modeling philosophy as the cost proxy models in terms of "building" a wireline network in geographic space. That is, the model determines where customers are actually located (based upon actual geocoded locations of Citizens' customers) within a wire center and lays out the necessary network to connect these customers to each other and to the serving central office. However, the CMWM takes the next step and lays out the actual path the network is likely to take. That is, the CMWM network follows the actual roads from the central office to each customer's premise and does not use a modeling abstraction such as "grid" or "rectangular" serving areas. The customers remain where they are and the CMWM lays the most realistic, efficient plant routing required to serve them in these locations. Hence, each wire center will have its own unique network configuration.

Where customer locations cannot be accurately assigned to the correct street segment in the geocoding process, a surrogate location process is used similar to that employed by the cost proxy models. However, since the model uses a company's service record addresses, the bulk of customer locations can be accurately assigned to the correct street segment. Surrogation is thus used to locate those customers that fall out of the geocoding process (i.e., for PO Boxes or Rural Route addresses) and for assigning a location to non-company served households that are within a company's wire center boundaries. In fact, the use of a company's specific customer data, including each customer's current service portfolio, sets the CMWM apart from the cost proxy models and makes it specific to a particular company.

Citizens suggested model development guidelines/criteria

The following is an assessment of some specific criteria for the selected model that Citizens believes will accurately reflect costs for Services and Unbundled Network Elements:

- Customer Location: Geocoded customer locations should be assigned to a road segment within the serving wire center. This result can be achieved by using spatial location techniques such as address-geocoding, Zip +4 centroid, or accurate road surrogation.
- Customer Aggregation: Inside 12,000 feet, customers should be grouped into Allocation Areas ("AAs") where groups of customers are close enough to the CO so that they are served on all copper (their signal does not need to be amplified). Customers with loops that exceed copper loop transmission limits without additional copper conditioning (i.e., load coils) should be grouped into Carrier Serving Areas. CSAs are formed by a process that starts with entire sets of customer locations outside of the AAs. The results of the clustering process

should be a group of clusters (AAs) tightly concentrated around the CO with CSAs that are dispersed farther out from the CO.

- Minimum Spanning Road Tree: To construct plant within the wire centers appropriately, a Minimum Spanning Road Tree ("MSRT") should be employed. The MSRT methodology utilizes road sections to design the "tree". The MSRT is a more realistic application of the traditional Minimum Spanning Tree ("MST") utilized by other proxy methodologies. A traditional MST connects a set of points with straight, point-to-point line segments. However, the MST does not provide a realistic representation of the cable needed to group customers in a wireline telecommunications network. In fact, the MST will most likely underestimate the amount of distribution cable required because it does not account for the rights-of-way that distribution cable must follow (i.e., roads). The essential difference between the MSRT and the MST is that the MSRT connects points using segments that follow a road network instead of using simple, point-to-point line segments.
- Distribution Plant Design: Once service points have been aggregated into serving areas, the distribution plant should be designed to connect these points to Feeder-Distribution Interfaces ("FDIs"). Using MSRT, the model should assume that the cable routes follow roads. Moreover, the assumption should connect the service points to the FDI via the shortest connecting road path. The MSRT used in the development of AAs and CSAs should be used for the distribution network.
- Feeder Plant Design: A MSRT should be used to connect clusters together with feeder cable. A given feeder path should serve FDIs in an AA and then serve Digital Loop Carrier Remote Terminals ("DLC-RTs") and FDIs in the CSAs. Copper feeder should serve AAs while only fiber feeder should be estimated for CSAs. Feeder routes should follow roads via the shortest connecting road path (MSRT). In CSAs, fiber feeder cable will extend from the CO to DLC-RT. Copper cable should then be used to connect the DLC-RT with the FDI. In AAs, copper feeder cable should be split off from the main feeder routes at the AA nodes to serve the FDIs.

3. If it is Citizens Telecommunications of Tennessee's and Citizens
Telecommunications of the Volunteer State's position that the methodology
used for determining the costs of unbundled network elements is
inappropriate for use in determining the cost of payphone access lines,
provide a detailed study identifying the cost of each network element that
make up payphone lines, identify the source of all data used, and supply
supporting workpapers that show the development of all factors and amounts.

RESPONSE: See the cost study attached to Citizens' Responses to Data Requests from the Tennessee Payphone Owners Association, a copy of which is being served on the Consumer Advocate along with this pleading.

- 4. For each month, January 1997 to present, identify by wire center:
 - a. The number of payphone lines provided to non-affiliated payphone providers
 - b. The number of payphone lines provided to company owned payphones or payphones owned by an affiliate.
 - c. The revenues collected from payphone lines provided to non-affiliates; and
 - d. The revenue collected from payphone lines provided to affiliates

RESPONSE: See attached work papers.

5. Identify the average loop length of:

RESPONSE: The following loop lengths were generated from various runs of Citizens' CostMap Wireline Model (CMWM)

a. All access lines:

RESPONSE: 24,669 ft (CTC-Tennessee) and 31,644 ft (CTC-Volunteer)

b. Business access lines:

RESPONSE: 13,512 ft (CTC-Tennessee) and 25,225 ft (CTC-Volunteer)

c. Residential access lines:

RESPONSE: 28,555 ft (CTC-Tennessee) and 32,624 ft (CTC-Volunteer)

d. Payphone access lines:

RESPONSE: 16,676 ft (CTC-Tennessee) and 26,880 ft (CTC-Volunteer)

Citizens Communications Company of the Volunteer State, Inc. Service Line Coin Supervision enabled line card	Citizens Communications Company of Tennessee, LLC. Service Line ⁽¹⁾ Coin Supervision enabled line card	PRODUCT Payphone Lines
\$15.07 \$2.94 \$18.01	\$12.66 \$3.24 \$15.90	Estimated Monthly LRIC
\$18.10 \$3.98 \$22.08	\$15.18 \$4.26 \$19.44	Estimated TSLRIC plus Service SpecificOverheads
\$21.64 \$5.12 \$26.76	\$18.12 \$5.45 \$23.58	Estimated TSLRIC plus Corporate Overheads

⁽¹⁾ Measured service - does not include switching & shared transport costs

1005 - CTC of the Volunteer State	Payphone Commissions 5280-052	Dial Around Comp 5280-511	Coin Collection 5280-515	Local Public Message Revenue 5010-100	Dial Around Comp 5010-210	Local Semi-Pub Message Rev 5010-300	Revenue TOTAL	Paystations Public	Paystations Semi-Pub	Access Lines TOTAL
Jul-00	(181.08)	(1,159.32)	(1,028.96)	0.00	0.00	0.00	(2,369.36)	82	17	99
Jun-00	(149.44)	(2,184.00)	• • •	0.00	0.00	0.00	(3,206.03)	82	18	100
May-00	(302.14)	(8,043.22)	•	0.00	0.00	0.00	(11,267.40)	82	18	100
Apr-00	(145.98)	(2,052.33)		0.00	0.00	0.00	(4,817.37)	82	15	97
Mar-00	(554.15)	(1,497.43)	• • •	0.00	0.00		(3,740.13)	82	15	97
Feb-00	0.00	(1,394.52)		0.00	0.00		(6,200.59)	82	15	97
Jan-00	0.00	(3,298.40)		0.00	0.00		(4,573.41)	82	15	97
	(1,332.79)	(19,629.22)		0.00	0.00	0.00	(36,174.29)	-		
Dec-99	0.00	(1,347.00)		0.00	0.00		(2,348.39)	. 82	17	99
Nov-99	0.00	(1,347.00)	• • • •	0.00	0.00		(5,565.80)	82	17	99
Oct-99	0.00	(1,894.53)		0.00	0.00		(4,487.04)	83	20	103
Sep-99	0.00	(4,157.38)		0.00	0.00		(4,803.68)	84	20	104
Aug-99	0.00	(1,347.00)		0.00	0.00		(2,920.32)	85	21	106
Jul-99	0.00	(1,399.40)	, , , , , ,	0.00	0.00		(6,014.23)	77	24	101
Jun-99	0.00	(3,779.38)		0.00	0.00		(8,394.21)		22	99
May-99	0.00	(1,309.00)	, , ,	0.00	0.00		(5,411.29)		22	100
Apr-99	0.00	(12,906.24)	, , ,	0.00	0.00		(17,021.34)		21	99
Mar-99	0.00	567.16		0.00	0.00		(3,372.85)		21	101
Feb-99	0.00	567.16		0.00	0.00		(2,895.57)		21	106
Jan-99	0.00		, ,	0.00	0.00	0.00	(3,324.34)	85	20	105
	0.00			0.00	0.00	0.00	(66,559.06)	-		
Dec-98	0.00			0.00	0.00	0.00	(5,326.56)	85	20	105
Nov-98	0.00	• •	, , , ,	0.00	0.00	0.00	(6,200.66)	89	21	
Oct-98	0.00	• •	, , ,	0.00	0.00	0.00	(10,797.28)	89		
Sep-98	0.00	· ·	, , , ,	0.00	0.00	0.00	(5,841.74)	89		
Aug-98	0.00	0.00	(5,220.45)	0.00	0.00	0.00	(5,220.45)	89	21	
Jul-98	0.00	0.00	(3,140.92)	0.00	0.00	0.00	(3,140.92)	94	21	
Jun-98	0.00	0.00	0 (10,775.03)	0.00	0.00	0.00	(10,775.03)	96	21	
May-98	0.00			0.00	0.00	0.00	(8,514.38)	95	5 21	
Apr-98	0.00				0.00	0.00	5,795.49			
Mar-98	0.00				0.00	0.00	3,547.58	95	; 18	
Feb-98	0.00	-			0.0	0.00	(9,666.61)			
Jan-98	0.00	(4,032.00	0.00	0.00	0.0	0.00	(4,032.00)93	3 18	3 111
	0.00	(2,313.33	(57,859.23)	0.00			(60,172.56	_		
Dec-97	0.00	(30,405.50) (24,471.94)				(4,032.00			
Nov-97	0.00						(4,032.00			
Oct-97	0.00	0.0			•		1,180.00			
Sep-97	0.00	0.0					(5,227.00	•		
Aug-97	0.00	0.0					(40,229.70			
Jul-97	0.00	0.0					0.00			
Jun-97	0.00	0.0	0.00				787.44		3 22	2 115
May-97	0.00	0.0	0.00	0.00			0.00			
Apr-97	0.00	0.0		• •			(3,324.18	,		
Mar-97	0.00	0.0	0.00	(6,982.76)				,		
Feb-97	0.00	0.0	0.00	(4,845.70)			, .	•		
Jan-97	0.00	0.0						-		
	0.00	(30,405.50) (24,471.94	(16,995.66) 0.0	0 0.00	(71,873.10	<u>)</u>		

1003 - CTC of TN	Payphone Commissions	Dial Around Comp	Coin Collection	Local Public Message Revenue	Dial Around Comp	Local Semi-Pub Message Rev	Revenue	Paystations Public	Paystations Semi-Pub	Access Lines
	5280-052	5280-511	5280-515	5010-100	5010-210	5010-300	TOTAL			TOTAL
Jul-00	(2,012.05)	(4,975.64)	(12,453.78)	0.00	0.00	0.00	(19,441.47)	362	72	434
Jun-00	(1,660.46)	(9,374.00)	• • • •	0.00	0.00	0.00	(39,065.49)	364	73	437
May-00	(3,357.14)	, . ,	· · · /	0.00	0.00	0.00	(61,083.17)	364	73	437
Apr-00	(1,622.04)	(8,808.82)		0.00	0.00		(15,653.06)	366	73	437
Mar-00	(5,337.63)	(6,517.71)	• • •	0.00	0.00	0.00	(32,739.36)	364	70	434
Feb-00	0.00	(6,075.14)		0.00	0.00	0.00	(34,585.83)	369	68	437
Jan-00	0.00	(14,248.28)	(18,430.42)	0.00	0.00	0.00	(32,678.70)	369	67	436
	(13,989.32)	(83,888.53)	(137,369.23)	0.00	0.00	0.00	(235,247.08)		07	450
Dec-99	0.00	(5,872.00)		0.00	0.00		(27,046.11)	370	67	437
Nov-99	0.00	(5,872.00)		0.00	0.00	0.00	(28,747.04)	370	68	438
Oct-99	0.00	(8,156.86)		0.00	0.00	0.00	(31,040.25)	377	68	445
Sep-99	0.00	(17,624.49)	• • •	0.00	0.00	0.00	(42,729.00)	380	67	447
Aug-99	0.00	(5,872.00)	• •	0.00	0.00	0.00	(29,770.34)	383	71	454
Jul-99	0.00	(6,091.14)	, ,	0.00	0.00	0.00	(29,014.97)	378	71	449
Jun-99	0.00	(15,801.60)	, ,	0.00	0.00	0.00	(38,725.43)	377	72	449
May-99	0.00	(5,473.00)	, ,	0.00	0.00	0.00	(31,399.24)	378	71	449
Apr-99	0.00	(53,971.26)		0.00	0.00	0.00	(76,150.36)	380	69	449
Mar-99	0.00	2,371.77	, , ,	0.00	0.00	0.00	(19,283.66)	387	69	456
Feb-99	0.00	2,371.77	(33,188.26)	0.00	0.00	0.00	(30,816.49)	386	64	450
Jan-99	0.00	2,371.77	(25,123.67)	0.00	0.00	0.00	(22,751.90)	386	64	450
	0.00	(117,619.04)	(289,855.75)	0.00	0.00	0.00	(407,474.79)			
Dec-98	0.00	(6,410.26)	(17,906.22)	0.00	0.00	0.00	(24,316.48)	388	64	452
Nov-98	0.00	(6,410.26)	(27,932.90)	0.00	0.00	0.00	(34,343.16)	394	65	459
Oct-98	0.00	(25,641.03)	(29,589.23)	0.00	0.00	0.00	(55,230.26)	394	67	461
Sep-98	0.00	0.00	(36,446.75)	0.00	0.00	0.00	(36,446.75)	390	70	460
Aug-98	0.00	0.00	` ' '	0.00	0.00	0.00	(21,349.98)	403	73	476
Jul-98	0.00	0.00		0.00	0.00	0.00	(18,032.90)	404	77	481
Jun-98	0.00	0.00	,	0.00	0.00		(29,585.42)	407	77	484
May-98	0.00	0.00	, , ,	0.00	0.00	0.00	(22,053.62)	409	76	485
Apr-98	0.00	(29,931.00)		0.00	0.00	0.00	(59,359.72)	411	78	489
Mar-98	0.00	61,697.00		0.00	0.00		31,846.04	423	78	501
Feb-98	0.00	(18,605.00)	,	0.00	0.00		(42,276.48)	423	81	504
Jan-98	0.00	(18,605.00)	(22,426.87)	0.00	0.00	0.00	(41,031.87)	424	82	506
	0.00	(43,905.55)	(308,275.05)	0.00	0.00	0.00	(352,180.60)			
Dec-97		(140,292.50)		242,257.83	121,687.50		(41,813.41)	424	84	508
Nov-97	0.00	0.00		(27,835.03)	(18,605.00)	0.00	(46,440.03)	425	84	509
Oct-97	0.00	0.00		(27,410.79)	5,444.00	0.00	(21,966.79)	425	87	512
Sep-97	0.00	0.00		50,510.63	(108,526.50)	0.00	(58,015.87)	421	87	508
Aug-97	0.00	0.00		(134,427.33)	0.00	0.00	(134,427.33)	424	89	513
Jul-97	0.00	0.00		(19,126.39)	0.00	0.00	(19,126.39)	422		512
Jun-97	0.00	0.00		(32,091.61)	0.00		(32,091.61)	424	92	516
May-97	0.00	0.00		(30,139.79)	0.00		(30,139.79)	420	88	508
Apr-97	0.00	0.00		(21,737.52)	0.00		(21,737.52)	420	85	505
Mar-97	0.00	0.00		(32,849.85)	0.00		(32,849.85)	424	84	508
Feb-97	0.00	0.00		(35,458.96)	0.00		(35,458.96)	424	86	510
Jan-97	0.00	0.00		(30,842.40)		(6,169.35)	(37,011.75)	424	86	510
	0.00	(140,292.50)	(265,466.24)	(99,151.21)	0.00	(6,169.35)	(511,079.30)	•		